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ABSTRACT

A working group composed of representatives from ten European countries and Nigeria was convened by the World Health Organization because of a recognition of the accelerating rate of change in the character and range of public health problems throughout the world. The program for the working group was designed to explore the major aspects of communications and relationships between schools of public health and health administrations. Four major topics were considered: (1) identifying manpower needs and problems of public health services; (2) new educational needs of health administrations; (3) educational responses to new needs of health services: organizational, administrative, curricular, and technical; and (4) joint responsibilities of health administrations and public health education systems for planning, implementing, and evaluating educational programs. The program of the working group, the list of working documents and background material, and the list of participants are appended to this report. (JD)

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Training Manpower for Health Administrations

Report on the Working Group on Specific Problems of Schools of Public Health

Brussels
9-11 September 1975

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Note

This report has been prepared by the Regional Office for Europe of the World Health Organization for governments of Member States in the Region and for those who participated in the Working Group on Specific Problems of Schools of Public Health. A limited number of copies are available to persons officially or professionally concerned in this field of study from the WHO Regional Office for Europe, Scherfigsvej 8, 2100 Copenhagen Ø, Denmark.

The views expressed are those of the participants in the Working Group and do not necessarily represent the decisions or the stated policy of the World Health Organization.

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This report is also available in French and Russian.

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1. INTRODUCTION

The Working Group, which was convened to coincide with the Fourth General Assembly of the Association of Schools of Public Health in the European Region (ASPHER), met at the Institute of Sociology of the Free University of Brussels from 9 to 11 September 1975. It comprised 39 representatives of schools of public health, 7 WHO temporary advisers and 5 WHO staff members. The programme had been planned by the officers of ASPHER and the WHO Regional Office for Europe. The General Chairman was Professor M. Graffar, President of ASPHER, and the General Rapporteur, Dr A.W. Macara. The programme of the Working Group, the list of working documents and background material, and the list of participants are given in Annexes I, II and III respectively.

The task of the Working Group was to review the roles and functions of schools of public health in relation to health administrations.

Professor M. Graffar expressed pleasure in welcoming the participants, and paid a warm tribute to the long-standing relationships between schools of public health in Belgium and the Ministry of Public Health, which were particularly fruitful in research activities of common interest. Relationships were perhaps less clearly defined with respect to educational activities, although a number of eminent administrators held titular chairs and were active both in setting up new teaching programmes and developing existing ones. Conversely, teachers in the schools served, at the Ministry's request, on commissions, some of which were concerned with teaching programmes. The discussions of the Working Group would surely indicate ways in which cooperation between the service and academic sides could be further improved. The participation of Dr Leo A. Kaprio, Director of the WHO Regional Office for Europe, was especially appreciated. ASPHER was deeply indebted to his Organization for its long-standing and continuing support of the Association's work, and this joint meeting marked a further important development in this relationship.

On behalf of the meeting, he thanked Professor A. Jaumotte, the President of the Free University of Brussels, for his reception on the previous evening, and for the interest he showed in public health by his attendance at the inaugural session. Special appreciation was due to Professor A. Sand, President of the School of Public Health of the University, for his invaluable assistance in the planning of the meeting.

In welcoming the participants to Belgium, Mr J. de Saeger, Minister of Public Health and Family Welfare, emphasized the interest of his Ministry in the discussions, in which several members of his administration would be involved. The expansion of preventive medicine, the complexity of the organization of health care services, and the need for epidemiological and statistical studies required specialists to have very different forms of basic training. The fundamental necessity to plan institutions for hospital and medicosocial care required people with

appropriate numerical and administrative training. It was the task of schools of public health to train personnel who would be able to respond to future needs, although it was difficult to foresee exactly the full range of their future activities. Control of the environment was another essential concern of public health which called for coordinated action by multidisciplinary teams. Extensive epidemiological knowledge was required to determine the choice of preventive medical measures. The development of mental health and its management in the community was another example of new fields of work in the promotion of health. Finally, the Minister expressed gratitude for past efforts by schools of public health, and his best wishes for a successful meeting.

Professor A. Jaumotte, President of the Free University of Brussels, warmly welcomed the participants to his University.

Dr Leo A. Kaprio, Director of the WHO Regional Office for Europe, recalled the close association which his Office had had with ASPHER from its inception. This joint meeting was a new development which enabled the Regional Office to bring together in a working group a wider representation of public health educators than would have been possible in an exclusively WHO activity. He hoped that ASPHER would find the discussions equally fruitful. The reason for selecting as the theme for the meeting - "Communication between health services and public health education systems" - was to underline the need for health service administrations and educational systems to collaborate much more closely than heretofore in the education and development of personnel for the health service. The World Health Organization was concerned with education because of its potential for the development of health services. The demands of health administrations and the output of educational systems were too often expressed quantitatively, whilst the importance of quality was insufficiently emphasized. Moreover, educational systems were frequently expected to solve administrative and operational problems which were not educational in character nor amenable to educational treatment. Health administrations simultaneously expected both too much and too little of educational systems: too much, in that most existing educational systems were not equipped to respond adequately to the manpower needs of health administrations; and too little, in that a modern educational system, applying the full range of educational resources and skills, could contribute very effectively to staff training and development, meeting the needs of individuals in preparing them for a career, stimulating a curiosity for research, and cultivating an ability to adjust to changing situations and a willingness to pursue education as a life-long process. The range of services which a modern educational system for health personnel could provide extended from an educational analysis or diagnosis of a health manpower problem to the evaluation of an educational programme in the light of its contribution to the solution of a health problem. Conversely, we must consider what educational systems should expect from health administrations. As education was by definition for the future, so a health administration must have a realistic plan with a health manpower component, if it was to set realistic targets for the educational system. It should also have a manpower monitoring

service to provide information on personnel performance to which educational programme planners should have access. The management and supervisory practices of a health administration should be consistent with the concepts of professional development on which a sound educational programme is based. Staff supervision in this sense was an extension of the educational programme and, conversely, an educational service was an important resource for such supervision and development.

Those were but a few of the functions of educational programmes and health administrations which demonstrated the need for close collaboration between them, but it was obvious that we must develop administrative mechanisms whereby the education and health systems can carry out their joint responsibilities. Many countries in the European Region were making progress in this direction and the programme for the meeting reflected a variety of new approaches which were in train. The report of a World Health Organization Expert Committee on Postgraduate Education and Training in Public Health,[1] which had been distributed to the participants, indicated ways in which training in public health was likely to develop, and implied profound changes in the public health education system which were already beginning to affect the member institutions of ASPHER (see Chapter 6). The report also discussed the role of Associations of Schools of Public Health and of the World Health Organization in the development of public health education (see Chapters 7 and 8). In reading the report it must be borne in mind that people in most European countries were accustomed to sophisticated standards of education. The need for the future was to develop the team approach, first, by groups of health professionals working together, and secondly, between the health professionals and an ever more enlightened and demanding public. Leadership of the team at local level should be the responsibility of a physician, trained in "community health" by a school of public health or equivalent institution, which should also contribute to the training of other members of the team, e.g. nurses, engineers, social administrators. At the regional or national level, at which planning and evaluation are carried out, various types of "health department" personnel require additional experience and knowledge to enable them to adapt health programmes to political and other constraints. Such personnel need to cultivate skills in communicating with politicians in order to try to match the politicians' aspirations with the pressing needs of health services. We were starting "in our own house" through this Working Group to seek educational solutions to these needs.

Professor E.A. Sand, President of the School of Public Health of the Free University of Brussels, welcomed the participants on behalf of his School, and expressed his appreciation of the splendid facilities which the Institute of Sociology had provided.

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[1] World Health Organization (1973) Postgraduate education and training in public health: Report of a WHO Expert Committee, Geneva (Wld Hlth Org. techn. Rep. Ser., No. 533)

Educational institutions were beginning to employ the cybernetic cycle, i.e. to define the objectives of an educational programme, plan the curricular accordingly, evaluate the outcome and, on this basis, redefine the objectives. This appeared simple but its application was in practice quite difficult, and at each point in the cycle there must be a dialogue between the educational institution and the health administration. The formal and informal contacts which would be established during the meeting should enable both parties to clarify the problems and to seek solutions.

2. SCOPE AND PURPOSES OF THE WORKING GROUP

The idea of organizing the Working Group arose from a recognition of the accelerating rate of change in the character and range of public health problems throughout the world and especially in the more developed countries. These changes, together with political, economic and social forces, are leading to the assumption of increasing responsibility by governments for the provision of more sophisticated services, both for control of the physical environment and for the prevention and treatment of illness. It is perhaps not surprising that health administrations in many countries are finding difficulty in recruiting sufficient numbers of personnel with the requisite knowledge and skills. This problem is often particularly acute in the public health field.

The programme of the Working Group was designed to explore the major aspects of communications and relationships between schools of public health and health administrations. There were four subthemes, which were set out as follows:

(1) identifying manpower needs and problems of public health services,

(2) new educational needs of health administrations,

(3) educational responses to new needs of health services

  (a) organizational and administrative

  (b) curricular and technical,

(4) joint responsibilities of health administrations and public health education systems for planning, implementing and evaluating educational programmes.

Each subtheme was introduced in plenary session, while subthemes (2) and (3) were further studied in discussion groups from which composite reports were made to subsequent plenary sessions by the Rapporteur.

Professor Graffar commended as essential background reading for participants two documents which had been circulated before the meeting: the Expert Committee Report on Postgraduate Education and Training in Public Health[1] referred to by Dr Kaprio in his introductory paper, and the Summary Report of the Working Group on the Relevance of Educational Planning to Health Problems held in Finland in June 1975.[2]

3. IDENTIFYING MANPOWER NEEDS AND PROBLEMS OF PUBLIC HEALTH SERVICES

Professor M. Lechat was in the Chair.

The subtheme was introduced by Professor Naruszewicz-Lesiuk and Professor Logan.

Professor Naruszewicz-Lesiuk emphasized the recognition in Poland, as elsewhere, of the need in health services for postgraduate training, aimed at improving the qualifications of personnel working in specific positions or performing specific tasks. The training programme in Poland was based on the needs and work plans of the staff concerned and of their parent agencies. It would be impossible to be certain of reaching this objective without coordination and supervision, taking fully into account the policy of the Ministry of Health. To this end, all medical education in her country had been brought under the Ministry of Health. Simultaneously, undergraduate training had been reformed to ensure its efficiency and its relevance to the needs of modern society.

Professor Logan reviewed the problems facing the public health services today.

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[1] World Health Organization (1973) Postgraduate education and training in public health: Report of a WHO Expert Committee, Geneva (Wld Hlth Org. techn. Rep. Ser., No. 533)

[2] World Health Organization, Regional Office for Europe (1975) The relevance of educational planning to health problems: Summary report of WHO Working Group, Kuopio, 1975 (ICP/HMD 008(S)), Copenhagen

There was confusion about the definition and functions of the specialty, especially in the light of the changing emphasis in the more developed countries from traditional sanitary activities to those required to cope with modern problems. Historical success against microbiological illness faced us with an aftermath of degenerative and sociological disease. The models were now much more complex than the simple chain models involved in microbiological control, and they were further complicated by demographic changes, including the increasing proportion of the old, and especially very old, people who consumed a disporportionate share of resources, including those for acute medical and surgical care. Dilemmas arose by reason of conflict between the cost/effectiveness of such services to the elderly patient and his family, and the fact that they did not bestow any benefit upon the society which provided them. Again, problems arising predominantly as a result of human behaviour, e.g., accidents in the younger age-groups and illnesses associated with smoking, alcohol and drug abuse, called for an important contribution from behavioural and social scientists.

Simultaneously, the providers of services had to contend with the increasing expectations of the public. People had been conditioned by improved living standards, better education, growing political awareness, and increasing insight into the potential of modern health care, no longer to tolerate discomfort. The public was ambivalent in its attitude to drugs and their manufacturers, especially in relation to the use of drugs for the modification and control of aberrant behaviour.

In the past, hospital and community (i.e. outside the hospital) services tended to be run in isolation from each other. This was no longer either possible or desirable, as evidenced by the "revolving door" situation in the care of the mentally disordered. The insatiable appetite of hospitals for skills and manpower led them to consume some two-thirds of comprehensive health care budgets. The realization that such resources are limited was responsible for the trend in some countries towards placing increasing emphasis upon care in the community, e.g., day hospitals for the elderly and mentally disordered. Much of the training of health care personnel and related professional workers had become obsolete, and there was a need for retraining in mid-career. Moreover, generalization was increasingly giving way to specialization, with a consequent need to construct mechanisms for coordination. There were serious problems of maldistribution of resources between different demographic areas and social groups which arose because skills followed money in an open market and even, it seemed, in a centrally planned, State-controlled system. As governments assumed increasing responsibility for the provision of health services, it was in everyone's interest that the health professionals should enter into a dialogue with the politicians and, through them, with the public whom they represented. Only thus could difficult decisions be taken about priorities and the allocation of limited resources.

It followed from this analysis of the problems that specialists in public health, whatever they might be called, needed training in the appli-

cation of the principles and methods of epidemiology and statistics, social and behavioural sciences, management theory and practice, and health economics to the problems of public health. Such training would prepare them to work as members of teams along with other professional workers such as administrators and economists, and equip them for new roles in decision-taking and communication with politicians.

A basic requirement for the rational planning of services was an adequate and reliable health information service. Frequently what we had was banks of data untouched by human thought. Statistics became information only when those who used them were informed, and they became informed only when they understood their value in decision-taking. Some excellent cybernetics systems existed which were not being used because of lack of communication between the theoreticians and practitioners, and this could be remedied only in a teamwork setting. Fortunately we were the last of the amateurs and those whom we were now training in schools of public health would be more truly professional.

These opening contributions were followed by general discussion, which is reported chronologically to indicate the flow of thought as the theme developed.

Professor Halter thought that, notwithstanding our imperfections, we did produce people who could cope, and, despite the relative lack of planning in western European countries, the health problems were no worse that in other countries where planning was more systematic. Services and education had to take account of the important current ecological and environmental problems with which we were faced, as well as with those which were seen as obvious health problems.

Dr Eberwein referred to the problems involved in bringing together the providers of health services and the educationists. They were more complicated than they might at first appear because they involved not only ministries of health and education, but also professional associations, trade unions and insurance companies. Nevertheless, such links must be established, and called for a "professional coordinator". Coordination was the leading problem both within and between the administrations and the educational institutions.

Dr Kaprio considered that, whatever the problem, e.g. cholera, cigarette smoking, or oil pollution, the question was how best to bring together people from different backgrounds in order to solve it. At least the desire to achieve this objective represented an advance on the situation obtaining only two decades ago. Different parts of the world (not just Europe) with different systems, shared similar problems, and there was a clear need to join forces in research and in the use of information.

Professor Stewart was unconvinced that State control could ensure that the content of courses was relevant to the needs of the time, or that it permitted a self-critical interdisciplinary approach which took account

of the political implications of different systems. Conversely, he doubted whether some over-liberal western universities could attain these desired objectives, but schools of public health in the west were emphasizing their concern with social diseases, e.g. alcoholism and violence, and with the administrative philosophy and machinery which could tackle a fundamentally changed situation.

Professor Logan pointed out that there was a wide spectrum of systems of health care, from State control at one end through insurance schemes to an open market at the other end. Whatever the system, the health services in any developed country were at least the second or third largest employers of manpower. They were the buyers, and the educational institutions were the sellers. What did the buyers require of the sellers, and were they attracting good enough recruits? We had a common interest in getting the product right. Community medicine (public health) was now recognized in the United Kingdom, for example, as a specialty in equal standing with clinical specialties, and it was essential to ensure that specialists in community medicine were worthy of this status.

Dr Kaprio, speaking for administrators, emphasized the significance of the thrusting politicians making policies, and the need for administrators to have a continuing dialogue with them. Much of education was an ad hoc response to perceived needs, rather than a planned systematic activity, and in this respect it resembled much of what passed for administration. He, like Professor Halter, was uneasy about environmental problems, including toxicological matters.

Dr Fülop saw one important difference between the problems in underdeveloped and those in developed countries; lack of personnel in the one and uncertainty about future needs in the other. He agreed that planning was necessary, and that schools of public health could not provide the necessary answers on their own. But they must be involved, e.g. through sociological and epidemiological studies of trends, in order to provide data as the basis for planning. Many health professional schools seemed to be almost exclusively concerned with curricular content and unconcerned about the many other aspects of educational administration and management which could help to make them more responsive to the needs of services.

Planning could be promoted by meetings such as this and improved by joint research projects to define the patterns of health personnel required; not only doctors, who constituted a decreasing proportion of personnel, but others such as managers, whose importance was evident from the scale of the operation. The developed countries had a role to communicate expertise in manpower planning and training to developing countries.

Dr Deliege-Roth agreed with Dr Fülop that developed countries had more manpower than developing countries, but they did have shortages of ancillary personnel, e.g. social workers. There were complex technical problems in constructing the right curricula in schools of public health

which required an interdisciplinary approach, and when solutions were found their application required no less work. High-powered interdisciplinary "think-tanks" or "reflection-groups" were needed.

Professor Serenko outlined the advantages of a system of State control. Better coordination was obtained between teachers and administrators when one central organization (the ministry of health) directed the whole process on the basis of demographic and epidemiological data. It became possible to organize the training of cadres in increasing specialization in response to changing needs and demands.

Professor Massé made a strong plea for some form of European Regional Association to carry out research into the political and educational process which had been discussed.

Dr Gordon Smith discussed the relationship between manpower needs (quantitative and qualitative) and education. There was a circular problem, e.g. in the United Kingdom the reorganized National Health Service created newly defined posts in "community medicine" in place of the old public health and hospital medical administration which could not all be filled because young people of ability had awaited the creation of attractive jobs; there were problems in environmental health because career posts were not available, and there was, therefore, no point in setting up courses. The need was for a long-term commitment by government to provide posts with a clear definition of what was required, for which people could be appropriately trained, together with adequate academic staff who had a clear view of their function.

Professor Sand pointed out that public health schools were mostly associated with faculties of medicine and emphasized the opportunity this provided of interesting medical students in public health.

Professor Logan saw a great challenge to put epidemiological skills to practical uses within health service administrations. Such research was a cyclical process, involving the needs of the population and the outcome of the processes of care. We needed to move from clinical definitions and priorities to operational ones, e.g. in deciding what resources should be devoted to the very old. In reply to Professor Serenko's advocacy of central control, he commended, as an alternative, the consensus management concept in the United Kingdom National Health Service. This gave the specialist in community medicine a new role vis-à-vis his administrative and clinical colleagues, and, at the grass roots level in the health district management team, it gave representatives of the clinicians in both hospital and general practice genuine "worker participation" which he had found nowhere else other than in Yugoslavia.

4. NEW EDUCATIONAL NEEDS OF HEALTH ADMINISTRATIONS

Dr A.C. Eberwein was in the Chair.

The first speaker to this theme, Professor Holland, showed how recent radical changes in health administration in the United Kingdom had affected the educational prescription.

The first significant change was in the scope of administration. Health administrators today worked in an integrated system and were concerned with the provision of public health, hospital and primary care services on a planning, as well as practical level. The second important change related to the structure of administrations: hierarchies had been replaced by an emphasis on "consensus management", whereby major administrative decisions were taken jointly by teams of health professionals, including "community physicians".[1] Health administrations had thus become more complex and controversial.

In the past, the National Health Service (NHS) had been divided between hospital authorities, served by lay and medical administrators; local authority "public health" services, managed by medical officers of health; and local executive councils responsible for general practice and related services. Under the 1974 reorganization, this tripartite system had been superceded by an integrated, two-tiered structure of Regions and Areas[2] (some of which were subdivided into Districts), responsible for the provision of all types of health care. Each Area had an administrative team consisting of a community physician, an administrator, a nursing officer and a finance officer. In Regions, these officers were joined by a works officer. At the District, or operational, level, there were, in addition, two clinicians representing the hospital medical staff and the general practitioners in that District. These management teams were expected to reach their decisions by consensus.

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[1] "Community physicians", or "specialists in community medicine" are in direct lineage from the former medical officers of health and hospital administrators employed by local authorities and regional hospital boards respectively.

[2] This applies only to England. In Scotland, Wales and Northern Ireland the respective government departments take the place of the regional tier.

Social services, environmental control outside factories, and housing remained the responsibility of the local authorities, but there were Joint Consultative Committees to ensure links between the health and local authorities, and Community Health Councils in each health district which were intended to represent the interests of the consumer.

This might all seem quite simple, but when one considered the size and complexity of an organization which employed more than 800 000 people and accounted for almost a tenth of all public expenditure, it became clear that it was a major administrative undertaking requiring a high degree of management expertise. The administrators were experiencing three main problems:

(1) The political implications of the administrative changes had been overlooked in their planning, despite the realization that closely-related social services and environmental services, including housing, could not be planned on a rational basis because they were so highly political.

(2) They were unprepared for the Community Health Councils, which were by no means representative of the consumers, yet had different expectations from the providers of services.

(3) Few, if any, administrators had relevant experience for management by consensus. Informed commentators expressed surprise that it seemed to be working.

Various interrelated problems complicated the definition of the educational needs of health administrations.

(1) The reorganized NHS was still in a period of transition. Professional and administrative staff, including medical officers of health who had become community physicians, had had to adjust to a major change of function, and there was still much uncertainty and confusion. Very few had been purpose-trained, yet they were the working models for recruits, whom they must help to train.

(2) There was considerable diversity between the various professional groups now involved in management and between the different levels of management. For example, community physicians had no hierarchy within their ranks as did the other administrators, including the nursing officers. Moreover, in the past, the professional administrators had been trained haphazardly, usually being seconded on short courses whilst working their way up. Medical officers of health at least had the Diploma of Public Health, inadequate though it may have been.

The situation was still fragmented. At the basic postgraduate level, the medically-qualified could prepare for the membership examination of the Faculty of Community Medicine, which required

training in epidemiology, medical statistics, and principles of administration and social sciences as related to community medicine. Similar basic training with greater emphasis on finance, accounting, organization, personnel management and law was available for professional administrators. Nursing officers with administrative responsibilities could undertake short courses run by universities and polytechnics.

Middle management training was largely undefined, but was usually considered to take place in service and to consist mainly of more advanced education in the various subjects taught at basic level, although there were formal courses for some groups, particularly nurses.

Education for senior management, arguably the most important of all, was even less well-defined, although it was being discussed.

Ideally, in an integrated health system, administrators of whatever level or professional background should receive management training in a multidisciplinary context to help create a climate sympathetic to consensus management.

(3) There were wide discrepancies in health administration between different parts of the country which made comprehensive planning of programmes for the basic and continuing training of administrators very difficult.

(4) The image of health administration was very mixed.[1] Many regarded it with the utmost suspicion, as an invasive irrelevance which diverted attention and resources from the diagnosis, treatment and prevention of disease. This was partly because of the elusive nature of both administration and management, which had no one central core subject or skill. Nevertheless, good management was a vital part of the health care system, particularly in a time of increasingly limited resources, and it could not be provided without properly trained personnel.

A useful classification of the skills and knowledge required by senior health administrators had been described elsewhere,[2] viz.,

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[1] Meyers, D. (1975) The new disease - "administration"? Brit. med. J., 2, 677-679

[2] Maxwell, R. (1975) Notes on skill needs for senior health service managers. Memorandum prepared for the Thwaites Working Party on Senior Management Training in the NHS (July)

(1) Analytical and quantitative skills aimed at understanding complex problems, assessing alternative courses of action, evaluating results. These were general skills useful in management as a whole and vital in the present hostile economic climate.

(2) Behavioural and political skills concerned with understanding, and relating to, people. These skills were often overlooked, perhaps because they were so obvious, but they were vitally important, particularly in a system in which decisions require agreement between people of widely differing professional backgrounds and expertise.

(3) Knowledge and understanding of health systems and problems. Without this specific knowledge, health administration would lose direction. It enabled administrators to appreciate the historical and social context in which they worked and helped them to learn from the experience of others.

Professor Holland had a personal concern about senior management training, and pondered the options, e.g., that senior administrators should be sent on sabbaticals, undertake research, receive in-service training, or attend a high-level staff college as in France.

In conclusion, it was said that a new era in health administration had been reached in the United Kingdom, at least, without it being clear how our administrators were to be prepared. However, by facing the problems and trying to define the needs, we should become more constructive in our approach to administration and recognize its major role in an effective modern health care system. The days of management by tradition and advocacy were over.

The second speaker, Professor Valic, was concerned with "The Place of Environmentalists" in relation to the theme.

The most dramatic of all the drastic changes occurring at an ever-faster pace in the nature of public health problems were those affecting the human environment. We understood the fundamental importance to health of the ecological balance between man and his total environment, but there was a dearth of scientific knowledge about the present and likely future consequences of changes for which man was himself responsible.

Until very recently, the main goal of the economy in most countries was the development of science and technology, which had resulted in increased productivity and a higher level of consumption of goods. This industrial progress doubtless had beneficial effects, but it also had adverse effects on the quality of the environment. Fortunately, these undesirable effects had not passed unnoticed, and increasing public concern had led governments, especially in the more industrialized countries, to review the situation. Their actions had culminated in the United Nations Conference on the Human Environment in Stockholm in 1972 and the establishment of the United Nations Fund for Environmental Protection.

Likewise, health administrations and the medical profession as a whole had tended, in recent decades, to forget the lessons of the sanitary era and to neglect their role in providing protection against environmental hazards, although the criteria of such risks to human health are derived from biological responses to specific factors in the environment. The lion's share of resources was devoted to a personal health care system which was physician-centred and oriented towards the treatment of illness. Yet, future improvements in health would depend upon improving the quality of the environment, and physicians must be at least as concerned with the effects of biological damage as others with better-defined functions in the field.

Professor Valic reviewed the scope of environmental control, quoting from the report[1] of a WHO Expert Committee which stipulated that environmental health involved or was related to the following:

(1) Water supplies, with special reference to the provision of adequate quantities of safe water that are readily accessible to the user, and to the planning, design, management, and sanitary surveillance of community water supplies, giving due consideration to other essential uses of water resources.

(2) Waste-water treatment and water-pollution control, including the collection, treatment, and disposal of domestic sewage and other water-borne wastes, and the control of the quality of surface water (including the sea) and ground water.

(3) Solid-waste management, including sanitary handling and disposal.

(4) Vector control, including the control of arthropods, molluscs, rodents, and other alternative hosts of disease.

(5) Prevention or control of soil pollution by human excreta and by substances detrimental to human, animal, or plant life.

(6) Food hygiene, including milk hygiene.

(7) Control of air pollution.

(8) Radiation control.

(9) Occupational health, in particular the control of physical, chemical and biological hazards.

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[1] World Health Organization (1970) National environmental health programmes: Their planning, organization and administration. Report of a WHO Expert Committee, Geneva (Wld Hlth Org. techn. Rep. Ser. No. 439)

(10) Noise control.

(11) Housing and its immediate environment, in particular the public health aspects of residential, public, and institutional buildings.

(12) Urban and regional planning.

(13) Environmental health aspects of air, sea, or land transport.

(14) Accident prevention.

(15) Public recreation and tourism, in particular the environmental health aspects of public beaches, swimming pools, camping sites, etc.

(16) Sanitation measures associated with epidemics, emergencies, disasters, and migrations of populations.

(17) Preventive measures required to ensure that the general environment is free from risk to health.

It was debatable whether it was the health authorities which should play the leading role in environmental control. The arguments against their doing so were:

(1) their reluctance to use strong legal sanctions;

(2) their focus on the delivery of health care;

(3) their inability to encompass the fields of transportation, land use, energy needs, and nature conservation;

(4) their incomprehension that environmental protection programmes should not always be based on health standards;

(5) the multiple-objective basis of environmental projects, using system-dynamic methods involving fiscal and other legislation which health authorities could hardly pass or enforce.

The arguments in favour of health authorities were:

(1) health protection and promotion were major reasons for controlling the environment;

(2) the need for collaboration between environmental control personnel and health statisticians and epidemiologists;

(3) their experience in this field, their present deployment of most of the relevant manpower, and their capacity to develop it further;

(4) the criteria and derived working standards were based primarily on biological responses to pollution;

(5) their outstanding capacity to command the support of the general public which is most sensitive to matters of health.

The overwhelming importance of public support constituted the strongest argument for health authorities playing at least a leading role in the comprehensive environmental control programmes which were required to evaluate the effects of the environment on health and to plan effectively for the control of hazards and the promotion of improvements. Sufficient qualified manpower was not available, and a wide spectrum of new manpower profiles was required.

A pilot project by the WHO Regional Office for Europe, undertaken in five European countries in 1973, suggested a need for four main levels of personnel for the environmental health services:

(1) professional, managerial staff,

(2) professional staff with specialized responsibilities over a defined segment of control,

(3) middle-level (subprofessional) staff,

(4) skilled or semi-skilled assistance (technicians).

There were indications that about 1000 professionals and 1000 middle-level staff were needed per million population, with a total manpower need of about 5500 per million population. Apart from physicians, engineers, economists, legal specialists and a wide range of physical, chemical, social and managerial scientists should be involved in a necessarily multidisciplinary development.

It was safe to assume that the existing educational facilities could not possibly meet these demands. Schools of public health, with their traditional multidisciplinary approach and staff, clearly had a major role to play in meeting these new educational needs for environmental health administrations.

The Working Group then moved into group discussions, of which the following composite report was presented by the General Rapporteur to the next plenary session.

4.1 Report of group discussions

The groups shared three preoccupations:

(1) Concern with the background against which educational needs must be considered: the changing demographic and epidemiological picture, the increasing complexity of modern health services, the

heightened expectations of a more sophisticated public, and the finite nature of resources. There was particular concern that while this difficult situation called for the application of complex skills largely new to public health administration and practice, the specialty of community health was commonly poorly regarded and ill-rewarded with serious implications for recruitment and morale.

(2) Equal concern with the needs of educational institutions as with the needs of health administrations. This was perhaps understandable as most participants were academics, and perhaps also legitimate because it is now clear that there is a community of concern or identity of interest between health administrations and the educational bodies whose major function is to serve them.

(3) Concern with all current and predictable needs, and not only with those which are newly-felt, newly-perceived, or newly-expressed.

4.1.1 Relationships between health administrations and educational establishments

There was a unanimity of view that, if educational establishments are to be sensitive to the changing needs of health administration and to make relevant and realistic responses to those needs, there must be a "permanent dialogue" between the two sides. This would facilitate both shorter- and longer-term forecasting and planning. In the shorter-term it would assist in determining the number of trainees required to fill the available posts and in defining job descriptions which should precede educational investment. Examples were cited of such manpower planning, e.g. in the USSR where the central health organization gathers information on requirements from the various republics and transmits them to the educational establishments which organize their teaching accordingly.

In the longer term, the needs could be predicted by the study of demographic, epidemiological and socioeconomic trends, the identification of emerging issues and the determination of priorities. An example was given from Canada of such collaboration in the criminological field.

4.1.2 Staffing of educational establishments

It followed that it was essential to have close links between the staff of health administrations - the practitioners - on the one hand, and the staff of educational establishments - the academics - on the other hand. This implied that the academics should have a defined role in the health service, i.e. joint or honorary appointments, and leading experts might have a place on the administrative boards to involve them in decision-taking. Conversely, key practitioners should have teaching status in the educational establishments and take a full part in the whole range of educational activities, including the evaluation of students and training programmes. Moreover, manpower planning was just as important for the

schools as for the health administrations, to ensure that there was a satisfactory career structure and that the numbers and skills of teachers were related to rational considerations rather than to idealistic concepts of potential activities which are virtually limitless.

4.1.3 Relationships among educational establishments

Better coordination was required among individual schools of public health within and among countries to determine educational objectives in relation to the changing sociomedical needs, and to attempt to standardize qualifications so far as may be necessary and desirable.

4.1.4 Relationships between administrators and teachers

In the same way as there should be a permanent dialogue between the health administrations and the educational establishments, so there should be some kind of "joint permanent commission" between administrators, defining their every-day problems, with teachers contributing analytical thinking to these problems. Together they should exchange experience and ideas, develop new concepts and strategies, and plan ahead.

4.1.5 Undergraduate and postgraduate education

In our concern with postgraduate training we must constantly bear in mind the importance of motivating the undergraduate students, especially the medical students, by promoting imaginative and stimulating teaching in public health (community health) which will capture their interest and support and condition the practitioners of the future to active cooperation with the health administrators.

At the postgraduate level the need was no longer predominantly for basic training of administrators who were expected in the past to develop expertise in every-day administration on the job, and who were left to find their own level without further education or training. It was now recognized that in addition to basic training there was a need for an extended programme of higher specialist training and continuing education throughout working life.

4.1.6 Scope and range of specialist training

The changing socioeconomic, demographic and epidemiological scene demanded that training courses include, alongside the more traditional subjects, adequate training in:

(1) the use of the quantitative sciences (biostatistics and epidemiology;

(2) the use of the social and behavioural sciences in relation to medicine and health education;

(3) the application of management theory and operational research techniques to the administration of health services;

(4) communication with the public and the politicians who ultimately decide priorities and control resources.

There was a continuing need for the medical administrator who is first a "good doctor" and who subsequently learns enough of the concepts and language of the behavioural, numerical and management sciences to act as an interpreter between colleagues in the health and related professions, and between the administration and the public.

4.1.7 Community health content of specialist or vocational training for clinical practitioners

Clinical practitioners in medicine, nursing and other health disciplines should learn something of the concepts and principles of community health during their specialist or vocational training. It was considered that this was best achieved as an integral part of their training programme rather than by the provision of separate courses in schools of public health.

4.1.8 Community health in the education of health-related staff

There was also a strong feeling that professional workers in disciplines related to health, e.g. health economists, sanitarians and operational research specialists, should have some knowledge and understanding of the field of study now encompassed by community (public) health.

5. EDUCATIONAL RESPONSES TO NEW NEEDS OF HEALTH SERVICES: ORGANIZATIONAL AND ADMINISTRATIVE

Under the chairmanship of Professor J. Rothe, the two introductory papers gave different examples of specific courses planned in response to the changing needs of the health services.

Dr Weddell described a "Combined operation in training community physicians" as the coordinator of one of the training schemes recently set up in the United Kingdom by "consortia" of universities and schools of public health as a radical alternative to established courses for the Diploma in Public Health, the M.Sc. in social medicine, or their equivalents. There were three such consortia which together covered most of England. Each academic unit contributed modules for trainees employed by a number of regional health authorities in the geographical area served by its consortium.

The community physician's work covered four main areas:

(1) the planning of health services;

(2) the collection, interpretation and presentation of information;

(3) the evaluation of the effectiveness of services;

(4) the coordination of preventive care services and the deployment of clinical doctors in the public health service.

Accordingly, the objectives of the consortia were to provide a course which combined academic teaching in epidemiology, statistics, social science and the principles of administration and management, with in-service training, in which the trainee could increasingly apply this knowledge to the planning, evaluation and management of health services.

This form of training demanded a combined statement of the overall objectives by the academic teachers and in-service trainers, and a statement of the detailed objectives of the two components of the course, which must dovetail to provide a single programme. Consequently, the academic and the practitioner must each be familiar with the contributions the other makes to the teaching; this must stem from their own experience. The combined operation had, therefore, to include the education of the teachers as well as the taught: the academic gained first-hand knowledge of the problems facing those practising community medicine; the community physicians came to appreciate the contribution that academic skills can make to the solution of their problems.

The training should fit a doctor to work in any branch of community medicine and to specialize later, e.g. in the practice of health services administration, epidemiology, medical information systems, communicable disease control, environmental medicine and nonclinical aspects of occupational medicine.

The academic teaching was given in modules of two to three weeks' duration. Each module included two or three of the basic subjects, thus emphasizing the need to combine the disciplines in the study of health care problems. In one consortium, the first module included epidemiology and statistics, and the second included social science, management and administration, health economics and medical care. The teaching of the second module was closely integrated with work covered in the first module and also with the service experience of the trainees. Subsequent modules covered information systems, operational research, occupational and environmental diseases and nutrition.

The academic modular teaching occupied 10 weeks in each year of the two years' training; the trainees spent the rest of the time working on the job. At first they had to act as observers, but as soon as possible they began to play an active part collecting, collating and presenting information needed for plans to meet specific health care problems. They had to become familiar with the work of other professional staff in the health services: hospital consultants, general practitioners, nurses, administrators, and those working in fields associated with health. They also

had to understand and become familiar with the management structure of the health service and the political forces, including those wielded by the representatives of the consumer, which greatly influenced decisions on health services planning.

It was too early to evaluate the consortia, the first of which got under way in 1973, and which had attracted recruits ranging in number from 6 to 15. The first test was the trainee's performance in Part 1 of the membership examination of the Faculty of Community Medicine, which assessed knowledge in the core subjects of the specialty. Longer-term evaluation included an assessment of success in Part 2 of the membership examination, for which candidates had to present a project on some aspect of community health. However, the best measure of the success of the training would be the performance of the newly-fledged specialist on appointment to career posts during the next few years.

Professor C. Larrouy described the origins and programmes of courses leading to the "International Certificate of Specialization in Human Ecology" as the coordinator of the course in the University of Toulouse.

The Certificate owed its origin to demands by medical students, physicians, and others for an entirely new form of teaching in human ecology which had traditionally received scant attention in medical schools. Many fields of human ecology were related to disciplines and subjects which were researched and taught in faculties of medicine, e.g. human genetics and physiology, psychology, occupational medicine, physical and functional anthropology, ergonomics and the problems caused by urbanization. There was particular concern about man-made hazards in the environment, and a view that the physician was well placed to act as a catalyst, or even as a synthesist in studies devoted to the relationship between man and his environment. The harmonization of this relationship could be seen as the very basis of any health strategy.

Such was the range of subjects and disciplines involved that a meeting of teachers in this field, which was held in Copenhagen under the auspices of the WHO Regional Office for Europe in February 1975, had agreed that it was impossible to conceive of a specialist in "human ecology". The objective of the Certificate courses was to provide an opportunity for people with a role in relation to the human environment to acquire basic knowledge and, above all, a vocabulary which would enable them to understand each other and to comprehend the totality of the problems. Concepts such as that of "comfort" in relation to temperature and noise, and pressing problems such as nuisances and toxicity had been defined in terms of stereotyped models which overlooked the diversity of living conditions and ethnic groups in the world. No redefinition of these parameters could be made without treating the problems in their entirety.

Responsibility for the courses was taken by the medical profession, and they were designated particularly for physicians, but also for others with a professional concern in the environment, e.g. economists, biologists,

architects, administrators, engineers, lawyers, psychologists, sociologists and town planners. Courses were now established at the Universities of Toulouse, Bordeaux, Marseilles, Paris V and Geneva, and would be commenced in Belgian universities in 1976.

Each university provided its own course according to a common policy, and between 75% and 80% of the programme's contents was common to all. The remaining 20%-25% was accounted for by the original nature of the teaching in each university. Thus, at Toulouse, where the course was part of the medical undergraduate curriculum, special emphasis was given to human genetics, biological anthropology and epidemiology.

To enable participants to attend the largest number of sessions possible, they were organized as a series of six-hour seminars held on one day each week. The programme of studies was being adjusted so as to give more emphasis to human adaptability and the cultural anthropological aspects of many problems concerning the environment, e.g., pollution and industrial and urban development, and less to statistics, data processing and physical anthropology.

The second year was devoted to the preparation of dissertations involving familiarization with research techniques and to frequent interdisciplinary exchanges in bi-monthly seminars.

Professor Valic, taking up the theme of Professor Larrouy's contribution, emphasized that schools of public health must provide for the needs of professional workers in related disciplines for education in environmental health, or they would go elsewhere and risk not learning about the health aspects of the environment.

Reference was made to another new approach to organizing a training programme, this time in health planning. This was a WHO-sponsored international course which had just begun in Bucharest for one month, in which an intensive workshop approach was applied; followed by an individual project on a chosen subject, which the WHO fellows carried out in their own countries for six months; and a further period of two weeks with the Romanian/WHO faculty to review the projects and to make an initial evaluation of the whole course.

5.1 Report of group discussions

A composite report on the group discussions was presented by the General Rapporteur to a later plenary session.

The appropriate educational responses of an organizational and administrative nature were seen to fall under three main headings:

5.1.1 Recognition of the need to define and develop relevant roles for educational institutions including schools of public health

(1) To provide training for a wide range of personnel:

(a) health professionals: specialist and continuing education for health administrators of various disciplines; introduction and orientation for undergraduate medical students; and research methodology, statistics and epidemiology, health economics and aspects of health services administration for clinicians;

(b) professional workers in disciplines related to health, e.g. administrators, economists, engineers, architects, lawyers, agrarians, planners;

(2) To employ new organizational forms, approaches and techniques, e.g.:

(a) to create or maintain the most appropriate form of relationships with governments and with health administrations;

(b) to try to strike the right balance in all postgraduate and continuing education between, on the one hand, a broad, global, general approach, placing health care in the wider ecological, sociopolitical and economic context and, on the other hand, specific, task-related, job-orientated vocational training;

(c) to develop multidisciplinary training as a reflection of the increasing trend in health services towards "teamwork" at the grass-roots level, "consensus management" at the operational level, and comprehensive planning, programming and budgeting at the higher levels of administration;

(d) to place the organization of curricula clearly within the cybernetic cycle of objectives, curriculum and evaluation;

(e) to train health administrators to communicate with the public and the politicians in order to inform them about environmental and personal health problems, to win their active cooperation and to assist them to express their needs coherently and constructively;

(f) to explore the scope for joint qualifications for professional personnel working at the interface of disciplines and/or administrations, e.g. health economists, operational research specialists, toxicologists and sanitary engineers.

5.1.2 Realistic appreciation of the problems involved in making appropriate responses

(1) Relationships between educational institutions, governments, and health administrations

Existing and changing patterns of relationship in different countries reflected the historical, cultural and political background of each. It was suggested by one group that in socialist countries contacts have always existed between ministries of health and the educational system, whilst in western countries these contacts may have to be created. Professor T. Zahariev emphasized that the planning of education of health personnel in Bulgaria was an integral part of the overall State policy for the country's development. On the basis of epidemiological data about the needs of the population, the Institute of Social Hygiene, Organization and Management, which was directly under the aegis of the Ministry of Health, trained people to meet the needs in such a way as to secure maximum service at minimum cost. Likewise, Professor J. Rothe described how, in the German Democratic Republic, the Institute for Postgraduate Medical Education was responsible to the Ministry of Health for postgraduate medical education and cooperated closely with the State health service bodies.

Most countries had much less clearly-defined relationships between the educational, government and health service authorities, and their problem was to decide what forms of relationships were best for everyone concerned.

(2) Human factors

(a) Teachers were frequently in short supply and not adequately prepared for the new tasks.

(b) Students as individuals were, like their teachers, not always selected according to the most relevant criteria of experience and motivation.

(c) Groups of students from diverse backgrounds frequently resented being forced into multidisciplinary situations which their earlier education may have conditioned them against, and in which they felt their professional integrity threatened. Traditional theoretical training was still commonly preferred to field-work experience in team-work settings.

(3) Techniques and methods

Educational methodology was poorly developed. This referred to the planning of educational programmes, the development and use of educational resources, the designing of curricula, the use of educational media, and the evaluation of student performance and of

programmes. Professional educational expertise was scarce and time and effort were required to remedy the deficiencies.

(4) Public ignorance

The desire to improve the ability of the health professionals to communicate with the public was frequently frustrated by lack of basic knowledge and understanding of the problems among the public, by the dictates of fashion, and by passive attitudes.

5.1.3 Willingness to experiment with a variety of organizational forms, approaches and techniques

The willingness to experiment was encouragingly evident. In their introductory papers, which strongly influenced the group discussions, Dr Weddell and Professor Larrouy had given graphic descriptions of two such experimental approaches. Perhaps the most significant aspect of the new modular courses of training for specialists in community medicine which had been described was the close functional relationships they involved between the universities concerned and the health authorities, which carried profound implications for health services manpower development. One problem for the International Certificate of Specialization in Human Ecology Course was to try to forecast what careers would exist in the three participating countries, Switzerland, France and Belgium, but the very existence of the course might well stimulate a dynamic evolution.

Groups cited other examples of innovative approaches, e.g.:

(1) new courses in health education in the Netherlands which were designed to change attitudes and, consequently, behaviour, in the population;

(2) valuable work done in Finland on conceptual, multi-dimensional models to implement a global strategy in the planning of educational programmes;

(3) an experience in Northern Ireland in helping new community health professionals to solve their problems, with the "teachers" resting content to present alternative courses of action but not preferred solutions;

(4) new approaches to introducing the medical undergraduate student to community health, e.g. in Belgium and Bristol.

6. EDUCATIONAL RESPONSES TO NEW NEEDS OF HEALTH SERVICES: CURRICULAR AND TECHNICAL

Professor S. Haraldson was in the Chair.

Professor Sand introduced the subtheme with a paper on "Programme Planning and Teaching Methods". The cybernetic cycle (see diagrams 1 and 2), i.e. designing courses relevant to service needs, involved a number of stages:

(1) the definition of the functions of the health system, and the related functions of the educational system, as precisely, completely, and dynamically as possible;

(2) the definition of the specific objectives of the educational institution, its programmes and courses, and objectives held in common with the health system;

(3) the identification of the constraints upon teaching programmes, e.g. financial, cultural and personality factors, and the existing body of knowledge and methodology;

(4) the construction and implementation of the programmes;

(5) evaluation of programmes at the level of both the teaching system and the functions to be performed by the students.

Professor Sand gave examples of retrospective evaluation of teaching, e.g. in relation to the planning of a course in epidemiology. Questionnaires were sent to former students of an international, WHO-supported course, to ascertain how much of their teaching they could recall, how valuable it had proved to be, and how frequently it had been put to use. Opinions were canvassed as to which subject matter should be extended or reduced, and respondents were invited to suggest what range of skills they should possess, and what personality traits should be encouraged, e.g. ability to adapt, to respond intelligently, and to inspire confidence. There was a significant number of nil returns, possibly from people who approved of the teacher but not of the teaching. Replies were analysed and the objectives and planning of courses were modified accordingly.

The importance of such efforts was to show:

(1) That there were three important components of teaching programmes in schools of public health:

(a) principles of management, in hospital and community,

(b) epidemiology and its application in public health,

Diagram 1

THE CYBERNETIC CYCLE

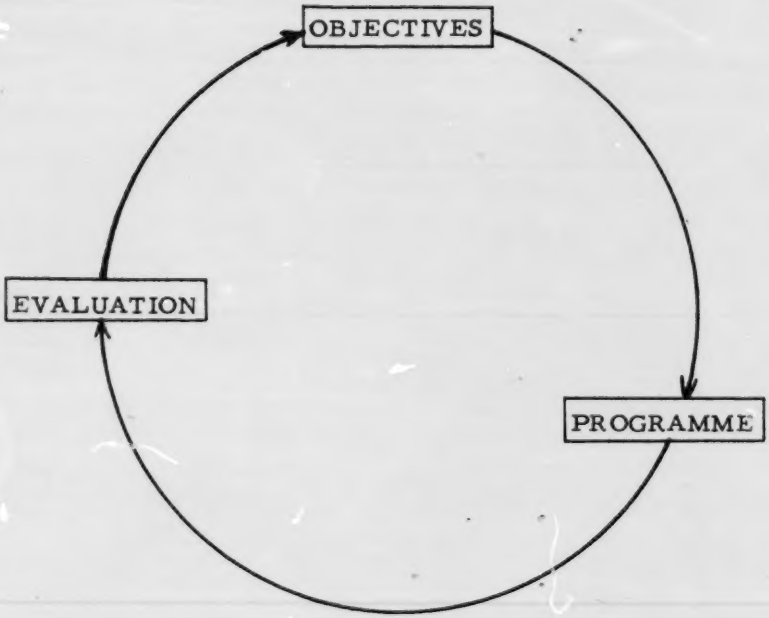
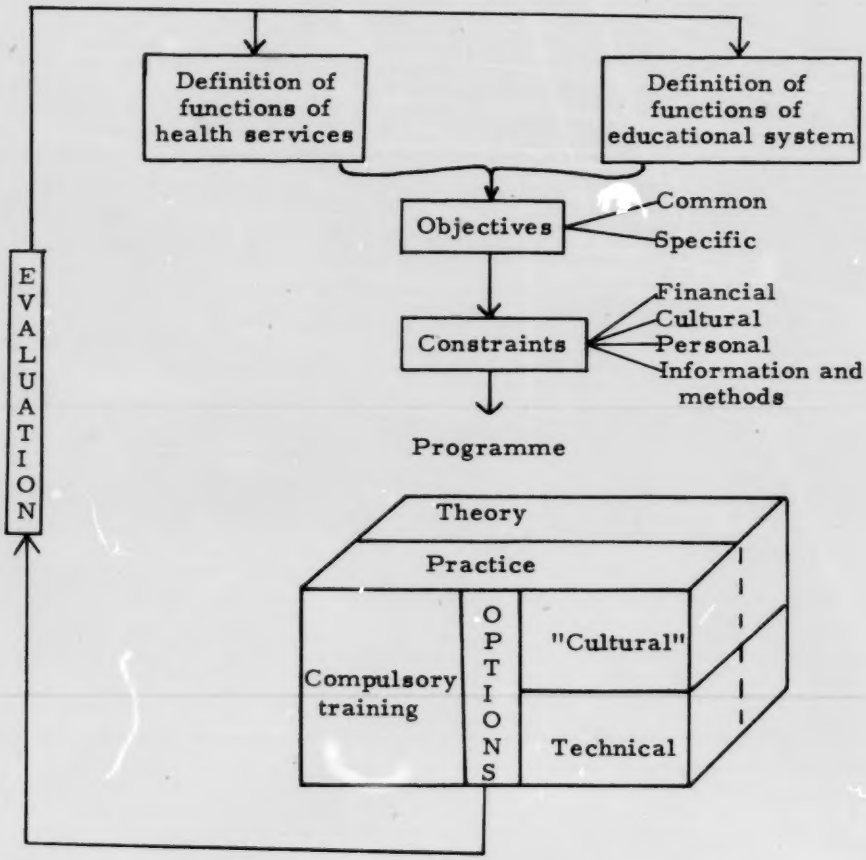


Diagram 2

ELABORATION OF THE CYBERNETIC CYCLE



(c) behavioural sciences, including group dynamics, interview situations, and problem solving.

Each component should be taught at two levels: general information as a basis for subsequent further development, and precise techniques of approach to specific problems.

(2) That the most effective teaching method and the best learning situation was an apprenticeship in which students had to cope with practical problems in a teamwork setting, undertaking specific projects and contributing to seminars.

Dr C. Boelen said that another example of a new curricular approach was provided by a United Nations Development Programme project executed by WHO in Eastern Algeria, in which medical students, medical auxiliaries, nurses and social workers were trained for community health functions. There the course organizers had brought together the "trainers" (teachers) and the "utilizers" (administrators) of health workers to design curricula to fit the functions performed by the groups of trainees concerned.

The relationship between the two sides or "streams" is shown in Diagram 3. Much attention had been given to A and C, as shown in Professor Sand's paper, but there was a need to devote more time to B and D.

The utilizers had constructed a model for the functioning of an "integrated health centre" (B) in three parts relating to input, output, and their articulation.

At the same time, the trainers produced a model for analysing functions: to ascertain who was doing what (D). This involved the construction of a "matrix of responsibilities"[1] to chart which of 150 listed and numbered functions were discharged by which category of personnel and at what "levels of intervention".

For any function, any one of the four categories of worker will undertake a variable number of these levels of intervention.

Each individual constructed his own matrix, under guidance, and the exercise enabled tasks to be delineated, after intergroup review among the members of the team, and permitted appropriate job descriptions to be drawn up. Thus consensus was reached. The significance of the process for the training programme is clear from Diagram 3.

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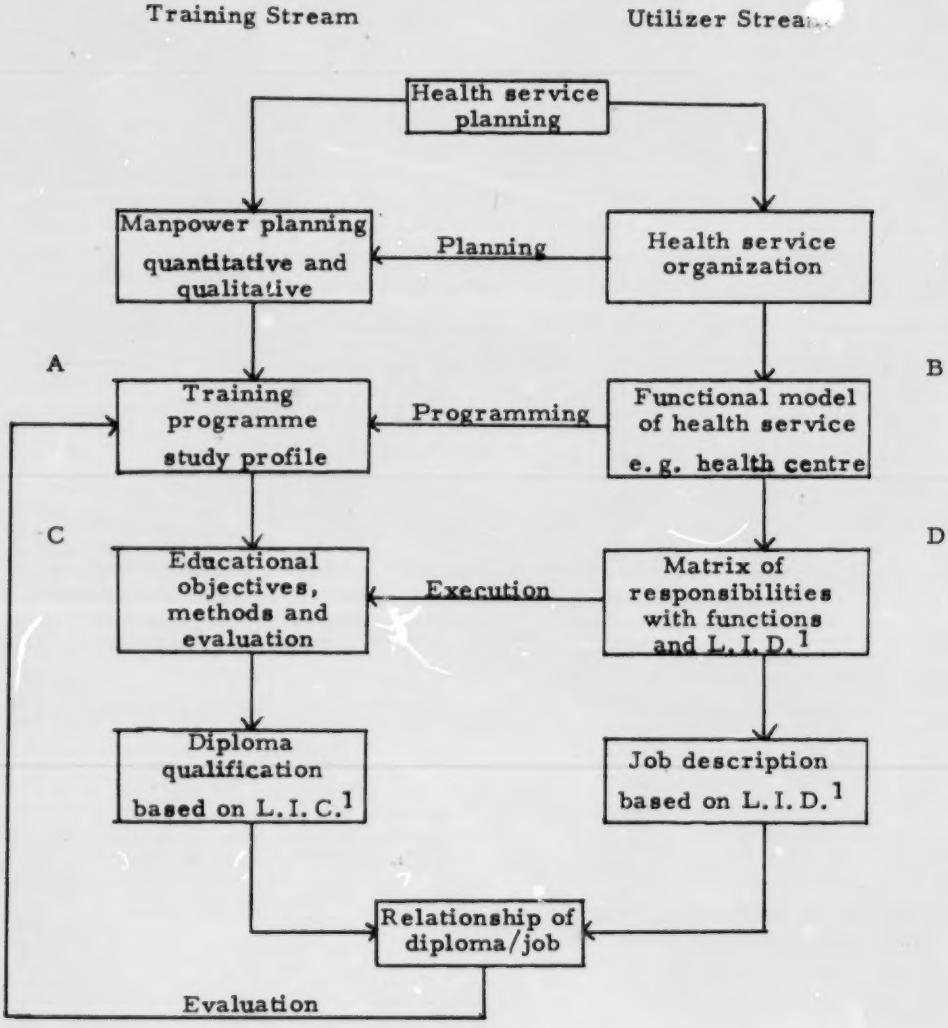
[1] Boelen, C. (1974) Matrix of areas of responsibilities (Institut technologique de la santé publique, Constantine, Algeria)

Diagram 3

RELATIONSHIPS BETWEEN TRAINERS AND UTILIZERS OF HEALTH PERSONNEL



[1] L.I.C. = Level of intervention certified by trainer
L.I.D. = Level of intervention demanded by utilizer

Operational objectives had been transformed into educational objectives, and the common interest and involvement of trainers and utilizers in the work led to a progressive elimination of the distinction between the two. Initially, as might be expected, the trainer made the main impact. After two years, both refused to allow any distinction to be made, and after another two years their identification had fused into a new hybrid - the "health promoter", a concept which defied analysis of the proportion of time devoted to "training" and "administration" respectively.

Four conclusions had emerged from this experience:

(1) rational approaches should be preferred to intuitive ones;

(2) function should be put before structure;

(3) the team should be seen to be more than the arithmetical sum of the individuals it comprised, and the term "auxiliary" should be eradicated as alien to the team concept;

(4) dynamic concepts should be preferred to rigid ones.

The discussion which followed anticipated the next subtheme (see Chapter 7) in its preoccupation with the question of the return which the health services received for their investment in training, and whether current methods of evaluation gave adequate answers.

Investment in postgraduate training of mature students, who required skilled tuition and supervision individually and in small groups from a wide range of disciplines, was heavy in terms of the time and talents of both service and educational staff. This was inevitable if training programmes were to be both truly vocational, to meet topical needs, and suitably academic, to stimulate attitude change and cultivate adaptability. The concept of defining a matrix of responsibilities as an aid to relevant curriculum design was seen as an ingenious device for trying to optimize the return for the investment in training. Participants were anxious for reassurance that the matrix was sufficiently flexible to cover sins of omission and commission, sufficiently dynamic to allow for the development of competence at different levels of intervention, and sufficiently cohesive to facilitate consensus and obviate discordance between groups. Although designed as a training instrument, it was thought to have a value also for management, in reducing conflict and increasing job satisfaction.

Likewise, the need was strongly expressed for demonstrably objective and effective methods for the evaluation of the results of all these efforts. Professor Sand's evidence had shown that replies to his questionnaires were consistent in their grading, even in the difficult area of validating attitudes, and honest, although there was no cloak of anonymity. The demand persisted, however, for e.g. statistical evidence that mortality and morbidity rates improved in test, cf. control situations; and for "external"

objective, formal evaluation of the product of training against the input, at one remove from those who were closely involved with the training programme.

7. JOINT RESPONSIBILITIES OF HEALTH ADMINISTRATIONS AND PUBLIC HEALTH EDUCATION SYSTEMS FOR PLANNING IMPLEMENTING AND EVALUATING EDUCATIONAL PROGRAMMES

Dr C.E. Gordon Smith was in the Chair.

Dr T. Fülop outlined the concept of "Health Services and Manpower Development (HSMD)", and discussed the blocks to its implementation and the criteria for its success, with special reference to schools of public health.

7.1 The health services and manpower development (HSMD) concept

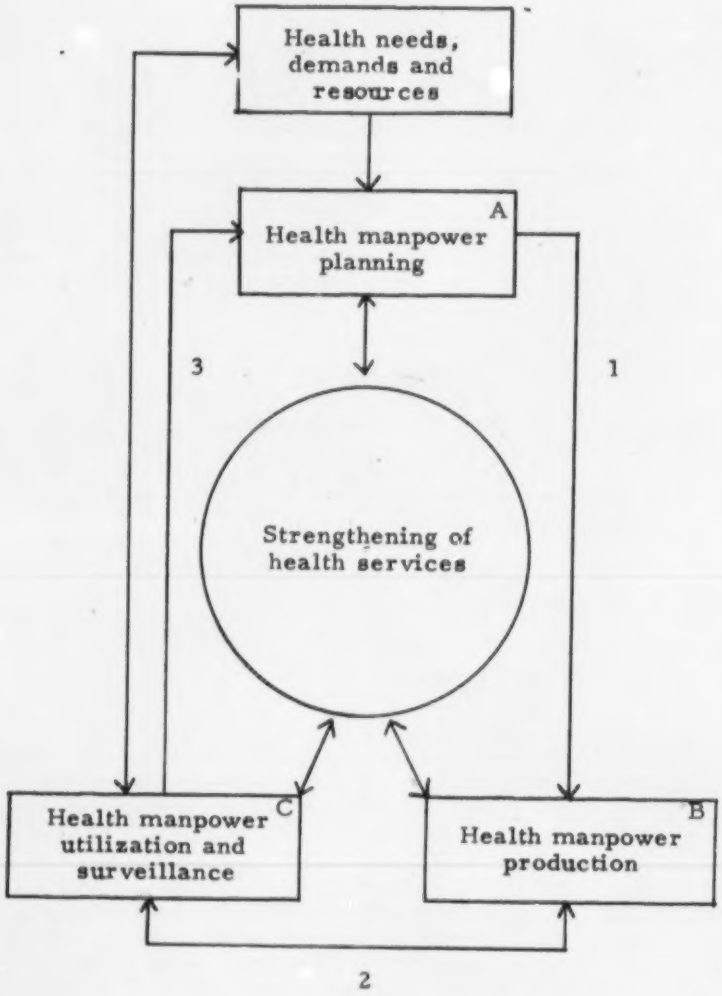
The concept represented in Diagram 4 implied a "double integration", first, within the health manpower cycle (ABC) itself, and second, between it and the process of the development of health services.

Integration within the health manpower process started with health manpower planning (A), defining the types and numbers of health personnel which schools of public health and similar institutions should train (B) in the skills required to meet the health needs and demands of the community as determined by rigorous research. Then, the products of training could be monitored during employment (C) to assess whether they were being properly deployed, and were competent to cope with the tasks for which they had been trained. The results of this surveillance were then fed back into both the planning (A) and production (B) phases, which were adjusted accordingly. The whole process should function as a self-correcting cybernetic cycle, within which each component part had its own self-directing cycle, e.g., within the training process (B), learning experiences (curriculum, methods) were designed to meet objectives based upon job descriptions provided by manpower planning; then evaluation of the outcome was fed back into the process of defining objectives and learning experiences.

Integration between the health manpower process and that of health services development implied that the aim of the former was to contribute to strengthening of the health services (see Diagram 4). The only measure of the effectiveness of the health manpower process was the extent to which it had contributed to the development of the services and, through them, to the improvement of the health of the population.

Diagram 4

HEALTH SERVICES AND MANPOWER DEVELOPMENT



= Blocks commonly found to effective action.

7.2 Obstacles to manpower planning

The problem was that not only integration, but even coordination was lacking between the different elements of the health manpower process (planning, production and utilization), which were invariably separate systems at widely varying stages of development; as well as between the health manpower process on the one hand and the development of health services on the other.

Three blocks to implementation of the HSMD concept are shown in Diagram 4. Health manpower planning, i.e. the defining of the quantity and quality of personnel needed for the efficient coverage of at least basic health services for the whole population, was being developed in many countries, but rarely exercised any effective influence on the production of manpower (block 1). This isolation of production from planning led, in turn, to its isolation from the health services it was meant to supply and, indeed, to strengthen. Blocks 2 and 3 related to the universal failure of the feedback mechanism whereby monitoring or surveillance of performance in post should provide data for the correction of the production and planning processes.

The effect of this complex problem was that health workers:

(1) were not always orientated towards the health problems of the local community they served;

(2) tended, in consequence, to congregate in large cities to the detriment of rural populations, or to leave their countries to serve less needy communities, or to devote themselves to individual patient care, serving a few instead of many, with little time or concern for health protection or promotion;

(3) were not always employed in the work for which they had been trained; were instead working on tasks that could be delegated to less highly and expensively trained members of the health team; and

(4) were too often poorly prepared to give the proper priority to preventive work.

In many countries these problems were compounded by the lack of any systematic provision for continuing education, which would allow the maintenance and constant improvement of the quality of performance. Conventional systems of health manpower development were irrelevant and tended to perpetuate traditional types of health personnel.

7.3 Implementing the HSMD concept

The solution of these problems, and the implementation of the HSMD concept required a concerted effort by all those responsible for health services and for the training of health personnel.

Radical changes were envisaged, involving the development of completely new types of schools, and a major effort by both old and new schools to produce the necessary health-team members capable of contributing their specific knowledge and skills in a combined operation to solve the health problems of the community. A fully developed surveillance or monitoring system was required to evaluate performance against objectives, and to feed back the information obtained into the processes of planning and production.

Time and thought were needed to elaborate details. Mechanisms to achieve the desired "double integration" would differ from country to country, but whatever their form, any council or committee must include representation of all interested parties at the highest level to ensure that the process worked.

The introduction of this concept would lead to the appearance of new types of health personnel. Village health workers and traditional healers in developing countries would be integrated into the system, as would environmental health personnel. The present over-medicalization of health care would come to an end because doctors and nurses would perform, within the health team, only those tasks for which they were trained. Leaders of the health team would be specially trained in the managerial sciences. Medical or nursing training would be merely a basis for such managerial training, and other members of the health team could also qualify for leadership after appropriate training. Team leadership would change with changing needs.

7.4 The role and functions of schools of public health in the implementation of the HSMD concept

Schools of public health could and should be the real promoters of the development and functioning of "double integration", with their understanding of the problems of community health, their orientation towards the community rather than towards individual health needs and demands, and their knowledge and skills in the planning, organization, administration, and evaluation of health services.

Their functions, within the familiar framework of training, research and service activities, might include:

(1) training students to understand all the implications of the HSMD concept and to contribute to its realization in the course of their employment; and providing, where it is lacking, proper learning opportunities for top- and middle-level health managers to enable them to plan, administer and evaluate services with regard to the HSMD process;

(2) research projects, e.g. developing a scientific basis for health manpower planning, as well as for its integration into general health planning, and, through it, into the overall socioeconomic process;

designing evaluation systems for control and feedback; and developing or improving health manpower information systems;

(3) service, through help in developing the various components of the health manpower cycle; contributing to solving important problems such as how to secure a holistic approach to primary health care in the context of overall health needs; and designing a mechanism to monitor the implementation of relevant policies and plans to ensure that the objectives of HSMD systems are both mutually supportive and consistent with national policies in health and related fields, e.g. education, employment and rural development.

In response to Dr Fülop's paper, Professor S. Halter confessed that he knew the faults of the western capitalist countries and what they had tried to do in this field, compared with the eastern European countries which had to be envied for the ease with which they could plan services in relation to defined needs. However, in the west, there was a tradition of local government participation, which was considered to have compensatory advantages.

In Belgium, the same malaise existed concerning the development of public health as was to be found in other western countries. This malaise seriously affected both the health administration and the staff of the schools of public health.

The schools of public health offered a wide range of qualifications, e.g. in occupational medicine, school health and hospital administration, and the World Health Organization was assisting with new developments. However, the medical profession showed little interest because the public health service was relatively unremunerative and morale was low. A progressive shift of responsibility in the public health area towards other professional workers, such as chemists, veterinarians, and engineers, was being observed, yet he was in no doubt that the key role of coordinating the health team of the future should be filled by a physician.

There were three main facets of the health services organization in Belgium:

(1) the delivery of individual care, both curative and preventive;

(2) mass prophylaxis and protection of the environment; and

(3) a social aspect, with a variety of medicosocial bodies providing supportive services.

In addition, the health administration was particularly concerned with:

(1) the education of health personnel, and of the general public; and

(2) the research which was fundamental to any progress and which must be regarded as a task primarily for nonmedical personnel.

At present the Ministry of Public Health had little impact on health manpower development for two main reasons. First, there were too many different ministries concerned with qualifications in the broad field of public health, and second, there were too few people in his ministry who were in a position to make a significant contribution.

One could not be optimistic about the capacity of schools of public health to change this state of affairs. They did not deal with practical, day-to-day issues in the administration of health services. Consequently, whilst their staff were skilled in theoretical, academic studies they were not faced with solving operational problems.

For their part, the public services were manifestly reluctant to accept students from schools of public health for practical training because they were apprehensive about interference of various kinds with their routine work.

The public services might be accused of having no policy for their development. They should learn their lesson from industry, which was not content to await consumer demand. Public health experts should be involved in a kind of marketing process, not only determining what was expected but also influencing choice in order to ensure adequate health delivery systems, e.g. they should stipulate the manpower needs and the functions for which personnel should be trained.

It was vital for both the Ministry and the schools of public health to collaborate closely. A major contribution by the schools in research into, e.g. needs, demands and resources, the utilization of manpower, and the outcome of health care, would fortify senior administrators, who were at present overloaded with routine work, and give them a chance to define their objectives more concretely. Together, they could explore solutions to administrative problems, and develop an overall strategy.

The schools of public health had two particular responsibilities in relation to health manpower:

(1) to train personnel in a realistic approach to practical problems and a commitment to efficient organization: this required courses which were relevant to needs and which could be constantly revised as required;

(2) to preserve their independence from faculties of medicine, so that they could deal with the public health field in its broadest sense.

The discussion which followed showed that the need for "double integration" as advocated by Dr Fülop, was widely accepted.

The concept of joint responsibility of health service administrations and schools of public health for achieving common objectives clearly implied joint action, but not loss of separate identity and emphasis. Many points which had been developed in earlier sessions were recalled and reinforced in the context of mutual commitment.

Realism dictated acknowledgement of the fact that every country faced great difficulties in achieving rational manpower planning relevant to national need, especially in the field of public or community health. There were some indications that an overall increase in medical student numbers tended to ease the problem, but parity of status was necessary for its solution. However, radical change was required in undergraduate education and in the image of the specialist in preventive medicine. With regard to the role of undergraduate education, the educational initiative of the new Medical Faculty of the University of Limbourg at Maastricht in the Netherlands was mentioned as an example of fruitful cooperation with the health administration in designing a curriculum to produce a primary care physician who could work easily with the health administration and adapt to changing health service needs. In the USSR, medical curricula were being systematically reconstructed to meet changing health problems and needs. The problem of status and image for the community physician had been solved in the United Kingdom by the establishment of parity with clinicians in status and pay, but the concept of the specialty came too late for enough recruits of high quality to have been prepared for the new roles. In the USSR, incentive bonuses of up to 30% for public health physicians and of even more for doctors prepared to work in the less popular parts of the country were effective.

There was particular concern about the lack of specific posts in most countries for physicians specially trained to contribute to the protection and promotion of the quality of the environment. There was strong support for the view that only physicians could make ultimate decisions in relation to environmental health, and that schools of public health should provide the necessary training. Joint action by the health administration and schools of public health was needed to create posts which would appeal to young people with training such as that described earlier for the courses in human ecology and who were not necessarily primarily motivated by financial considerations. In the USSR there was strong competition for places on courses for the Diploma of the Hygiene Faculty.

With regard to the possibility of implementing the HSMD concept, it seemed that even when a formal organization could not be set up for the purpose, it was still possible to implement it in many important details within existing administrative structures. Thus a health authority may be in a position to administer substantial funds for research by schools of public health. However, changes in the law may be required to enable ministries directly and formally to fund schools which are not organs of ministries of health or attached to State universities. In Belgium, there were two types of research budget; for applied research, commissioned by the Ministry on a short-term basis; and fundamental research, which now included a specific allocation for epidemiological studies, on a

contractual basis. Representatives of schools of public health, whilst welcoming short-term support, considered long-term applied research grants essential if the necessary teams of good people were to be built up. Fears were expressed, however, voicing the feeling of the recipient, that a beneficient ministry might claim ownership.

Nevertheless, it was necessary for teachers and administrators to be associated in decision-taking as well as research in health services: academics had to command the confidence of health service personnel in order to make their fullest contribution. It would be presumptuous for schools of public health to determine the needs of health administrations. Health service managers should indicate needs, and academics suggest means, through small working groups with joint consultative steering machinery, for which there was a model in the chemical industry in the United Kingdom. Together, they should move to "test-situations", trying out their ideas with increasing competence and confidence. Long-term research grants would promote continuous association of administrators with academics, but the closed system of the civil service in many countries was a barrier to mobility.

Attention was drawn to the important, though not exclusive role which a recent symposium[1] had shown schools of public health could play - as they did, to some extent, in France and the Federal Republic of Germany - in ensuring that the right kind of health information was collected, and that the best use was made of it.

8. CONCLUSIONS

Professor L. Massé was in the Chair.

8.1 The problems of health services and their manpower needs

8.1.1 General and personal health services

The changing demographic and epidemiological picture, which is associated with complex ecological problems and an increasing burden of chronic degenerative disease in aging populations, presents challenging problems for health service administrations. Simultaneously, public expectations are increasing and technologically sophisticated health care services are absorbing an ever greater share of the available resources of capital and manpower.

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[1] World Health Organization, Regional Office for Europe (1975) The functions of central institutes of public health and hygiene: Report on a Symposium, Moscow, 1973 (EURO 4001(2), Copenhagen.

Resources are limited in relation to needs, demands and the potential of services, and this forces difficult decisions about priorities. As governments assume greater responsibility for financing health services, the maldistribution of resources between different geographical areas and social groups and between preventive, primary and secondary care, becomes both morally and politically indefensible.

The correction of inadequacies and inequalities requires that health care be rationally planned as an entity in which paymaster, educator, administrator, practitioner and patient work together. The bridging of gulfs between hospital and community, between professional specialties, and between geographical areas and social groups requires not only integrated health care systems but also a revolution in the attitudes of everyone concerned. This has profound implications for educational institutions for health personnel and not least for schools of public health.

8.1.2 Environmental health control

Environmental hazards to health continue to be of major public health concern. Improvements in health in developed and less developed countries depend much more upon improving the environment than upon further developments in medically-centred, personal health care. If health administrations are to assume a significant role in evaluating and controlling environmental hazards to health, they will need a wide spectrum of new manpower profiles with responsibilities for overall management and for specific segments of environmental control, middle-level staff, and skilled and semi-skilled assistants. There are indications that about 1000 professionals and 1000 middle-level staff are needed per million population, with a total manpower need of about 5500 per million population. Existing educational facilities cannot meet these demands. Schools of public health clearly have a role to play in this respect.

8.2 Interaction of educational systems and health administrations

There is a wide variation in existing relationships between educational systems and health administrations, from direct control of educational institutions by the health administration in eastern Europe to the symbiosis between autonomous educational bodies and the State, which directly or indirectly finances most educational activities in western Europe. Whatever the pattern of formal relationships, however, a permanent dialogue is required to define educational objectives in relation to the manpower needs of the service and to research priorities, to design valid programmes, and to evaluate the product against the declared objectives.

There is a need for academic staff and service practitioners to be more closely associated by, e.g. assigning defined roles to academics in the administration and operation of environmental and personal health services, and to administrators and practitioners in the planning, teaching and evaluation of educational programmes.

Health manpower planning is as important for educational systems as for health administrations, in order to ensure that the numbers and skills of teachers are related to realistic considerations rather than to idealistic concepts of unlimited potential activities. Problems of recruitment will be resolved only by the provision of attractive career opportunities in both service and academic work, which must be no less satisfactory than in other specialties.

8.3 New educational needs of health services

Health services need staff who can apply the quantitative sciences, the social sciences and management theory to the administration and operation of health services; and who can communicate effectively with the public and the politicians who ultimately decide policies and control resources.

There is a continuing need for the medical administrator who is first a good doctor and who subsequently learns enough of the language of the behavioural, numerical and management sciences to act as an interpreter between colleagues in the health and related professions, and between the administration and the public.

Clinical, medical and other health professional staff, and professional workers in disciplines related to health, e.g. health economists, sanitarians and operational research specialists, require to have some knowledge and understanding of the fields of study now encompassed by public health.

8.4 Responses of educational systems

Educational institutions in a number of countries have begun to meet new needs of health services by extended programmes of higher specialist and continuing education and refresher courses for a wide range of health service personnel and professional workers in related disciplines, in addition to the basic postgraduate training which formerly predominated. New models of multidisciplinary education are being developed which reflect and service the trends towards team-work and "consensus" management at the operational level, and towards new administrative approaches to planning, programming and budgeting.

A number of institutions outside the main stream of education in public health have begun to meet the needs of professional people, whose work is related to health, for a better understanding of human ecology and of the socioeconomic factors which affect health. This reflects an interest in the global approach to health promotion as distinct from task-related, conventional vocational training.

The need is recognized to train health administrators to communicate effectively with the public and politicians.

There are new approaches to organizing educational programmes which permit students to work at the same time in the health services and to learn from the associated supervised experience. New concepts of curriculum design and of educational programme evaluation are emerging which relate curricula and evaluation to the actual and future functions of students. The contribution of the educational expert to assist institutions to develop and use those educational skills is beginning to be recognized. Some institutions are exploring the scope for joint qualifications for professional personnel working at the interface of disciplines and/or administrations, such as health economists, operational research specialists, and sanitary engineers.

There are few, if any, schools of public health in the accepted sense of the term that can provide the complete range of training which a modern public health service needs, and health administrations and schools alike must draw on the other potential educational resources which are available in modern societies.

ANNEX I

PROGRAMME OF THE WORKING GROUP

Tuesday, 9 September 1975

09.00 - 10.00	Opening session of the General Assembly of the Association of Schools of Public Health of the European Region (ASPHER) and of the joint Working Group of ASPHER and the WHO Regional Office for Europe: 1. Address of welcome by Professor M. Graffar, President of ASPHER 2. Address by Mr J. de Saeger, Belgian Minister of Public Health and Family Welfare 3. Address by Professor A. Jaumotte, President of the Free University of Brussels 4. Address by Dr Leo A. Kaprio, Director of the WHO Regional Office for Europe, Copenhagen 5. Address by Professor E.A. Sand, President of the School of Public Health of the Free University of Brussels
10.30 - 12.45	Plenary session Chairman: Professor M. Lechat Presentation of themes of Working Group by Dr J. Gallagher Theme 1: Identifying manpower needs and problems of public health services - introduced by Professor D. Naruszewicz and Professor R.F.L. Logan Discussion on Theme 1 in plenary session
14.00 - 14.45	Plenary session Chairman: Dr A. Eberwein Theme 2: New educational needs of health administrations - introduced by Professor W. Holland and Professor F. Valić
14.45 - 16.00	Group discussions on Theme 2
16.30 - 18.00	Group discussions continued

Annex I

Wednesday, 10 September 1975

08.30 - 10.00	Plenary session Chairman: Professor J. Rothe Presentation of group reports on Theme 2 by the Rapporteur Theme 3.1: Educational responses to new needs of health services: organizational and administrative - introduced by Dr J. Weddell and Professor G. Larrouy
10.30 - 12.45	Group discussions on Theme 3.1
14.00 - 14.45	Plenary session Chairman: Professor S. Haraldson Theme 3.2: Educational responses to new needs of health services: curricular and technical - introduced by Professor E.A. Sand and Dr C. Boelen
14.45 - 16.00	Group discussions on Theme 3.2

Thursday, 11 September 1975

08.30 - 10.00	Plenary session Chairman: Professor C.E. Gordon Smith Presentation of group reports on Theme 3 by the Rapporteur Theme 4: Joint responsibilities of health administrations and public health education systems for planning, implementing and evaluating educational programmes - introduced by Dr T. Fülop and Professor S. Halter
10.30 - 12.45	Group discussions on Theme 4
14.30 - 16.00	Plenary session Chairman: Professor L. Massé (1) Presentation of group reports on Theme 4 by the Rapporteur (2) Conclusions and recommendations (3) Closing session

ANNEX II

LIST OF WORKING DOCUMENTS AND BACKGROUND MATERIAL

Working documents

ICP/HMD 020/6	The health manpower process - Dr T. Fülop
ICP/HMD 020/7	Postgraduate education and training in public health in Poland - Professor Danuta Naruszewicz-Lesiuk
ICP/HMD 020/8	Training community physicians: a combined operation in education - Dr Jean Weddell
ICP/HMD 020/9	Remarks on the programme of the International Certificate of Specialization in Human Ecology - Professor G. Larrouy
ICP/HMD 020/10	Undergraduate and postgraduate medical education in the fields of administration, planning and organization of the health services in the German Democratic Republic - Professor J. Rothe

Background material

World Health Organization (1973) Postgraduate education and training in public health; Report of a WHO Expert Committee, techn. Rep. Ser., No. 533

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